Nierenlagers," and was later classified into four categories by Ponfick (quoted by Coenen, 1910). Case 3 is an example of Ponfick's haematoma renis extracapsulare. Coenen, who collected 12 cases of perirenal haematoma and reported one of his own, mentions nephritis, renal sarcoma, arteriosclerosis, renal tuberculosis, chronic splenomegaly with gastritis, and haemophilia as the associated conditions. Heilmann (1930), who reported four cases of perirenal haematoma, suggests spasm of the capsular vessels as an aetiological factor. Cases of gross suprarenal haemorrhage have been reported in adults (Keele and Keele, 1942; Burnett, 1948). Eleven cases had previously been described. Only three of these cases, including those of Keele and Keele, were unilateral, as was the case under discussion, and in no instance was there a haemoperitoneum. In addition to atheroma and a possible spastic mechanism owing to hypertension, thrombosis of the suprarenal vein as in Keele and Keele's case should be considered as the proximate cause.

Summary

Three cases of intra-abdominal haemorrhage are reported. All three had evidence of hypertension.

The first case was one of spontaneous intraperitoneal haemorrhage with no morbid anatomical source for the bleeding apart from hypertensive changes in the smaller vessels.

The second case showed intramuscular haematomata; hypertensive arteriolar disease was sufficient to account for the haemorrhage.

The third case showed a haemoperitoneum from rupture of a perirenal haematoma. The origin of this is discussed. There was clinical evidence of severe hypertension.

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The British Council for the Welfare of Spastics has produced an admirable pamphlet entitled "Notes for Parents on the Home Care of Children Handicapped by Cerebral Palsy." It has been prepared by Dr. J. H. Crosland, of the Physical Medicine Department, Charing Cross Hospital, and Mr. H. P. Weston, executive secretary of the council. After a short account of the causes and nature of cerebral palsy the authors describe in detail how to care for spastic and athetoid children, while emphasizing that they must not be coddled. While these children must receive what help they need, the parents' natural anxiety should not prompt them to make their children over-dependent. Self-confidence and a sense of security must be inculcated into the children, and there are illustrations of special furniture, toys, and feeding utensils that will help the children to live as independently as possible. Special sections are included on the training of speech and excretion. Particulars may be obtained from the council's honorary executive secretary at 107, Norfolk Avenue, Sanderstead, Surrey. The pamphlet is obtainable from the same address for 1s. 3d. post free.

EFFECT OF PRESSURE COOKING ON VITAMIN C CONTENT OF VEGETABLES

BY

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We have recently been investigating the effect of pressure cooking upon the loss of vitamin C in vegetables. As it may be some time before we can continue this work, and as there is considerable topical interest in the question, the results so far obtained are here briefly reported.

Method

In order that the results may be interpreted readily, we have compared the effects of pressure cooking with those of cooking in an ordinary saucepan. Since it is known that factors such as the volume of water and the period of cooking greatly affect the loss of vitamin C in the saucepan, the method adopted was that known to conserve the vitamin as much as possible. This method, advocated by the Ministry of Food, involves the use of a small volume of water, bringing this to the boil before putting in the vegetable, and cooking for the minimal time. With one exception, 200 g. of vegetable was cooked in 200 ml. of water in the saucepan, as this was found to be the minimal amount of liquid necessary to prevent the saucepan boiling dry. The exception was spinach, to which, as in common practice, water was not added.

The pressure cooker used was one of the now popular variety with a capacity of 7 pints (3.96 litres). The vegetables were cooked in this according to the directions supplied by the manufacturer. Again 200 g. of vegetables was used, but only 100 ml. of water. A larger volume of water is unnecessary, and would undoubtedly result in a greater loss of vitamin C by leaching. Care was taken to avoid overcooking with either method.

In every experiment six samples of each raw vegetable, so far as possible equivalent and representative, were taken. Two were for the determination of the initial content of vitamin C, two for the pressure cooking, and two for saucepan cooking. Two different portions of each raw sample of vegetable and three of each cooked sample were taken for analysis. The vitamin C was also assayed in the cooking-water. Thus for every experiment 20 samples were assayed, each assay being made in duplicate. In all, 14 experiments were performed on 10 different vegetables. The method of estimation used was that of Harris and Olliver (1942).

Results

In view of the varying nature of different vegetables and of different specimens of the same type, it was not to be expected that the variation in results between the two methods of cooking would be uniform. In all of the 10 vegetables examined there was no evidence that saucepan cooking was better than pressure cooking in retaining vitamin C. In six vegetables—cauliflower, broccoli, winter cabbage, new carrots, turnips, and swedes—the retention was consistently better in pressure cooking by between 3 and 28% of the original amount of vitamin C. In the other four vegetables—spring cabbage, broad beans, old carrots, and spinach—pressure cooking gave a slightly higher retention in some experiments and a slightly lower retention in others. The average difference in

these instances was always small—of the order of 5% in favour of the one or the other method. The average retention of the original vitamin C in all the experiments performed was 7.5% more in pressure cooking than in saucepan cooking—66% against 58.5%.

The estimations of vitamin C in the cooking-water showed that, with the exception of spinach, there was a greater loss by leaching in the saucepan than in the pressure pan. The results with spinach were no doubt due to the fact that no water was added to the saucepan, whereas 100 ml. was added in the pressure cooker. It is often recommended that the water used in cooking vegetables should be used in soups, stews, and gravies. This is, however, not often done, and when it is the liquid is frequently kept for some time and then cooked again. If it were to be used immediately the difference in the total ascorbic acid in the vegetable and cooking-water together would be negligible when comparing the two methods of cooking. In other words, the total amount of the vitamin in the vegetable and cooking-water together was on the average almost the same in the two forms of cooking (78% pressure cooking; 79.6% saucepan cooking).

Discussion

This investigation is of necessity limited by difficulties peculiar to any attempt to bring laboratory methods to domestic problems. On the one hand, it is clearly necessary to control as many factors as possible by using standardized conditions; on the other hand, it is obvious that no two housewives will cook in identical conditions; in fact, these conditions will differ from time to time even in one kitchen.

In the controlled conditions we have used it is evident that, so far as the retention of vitamin C is concerned, pressure cooking is certainly no worse than cooking in a saucepan, and in some instances is better. The differences are small, however, so that a bad technique with either method would result in a greater loss of the vitamin with that method. In some of our work, overcooking in the pressure cooker or a longer time in reaching the necessary pressure led to an appreciably greater loss of vitamin. Again, in what is still, unfortunately, the common way of cooking vegetables in a saucepan, with large volumes of water and a tendency to overcook, there is a greater loss of vitamin C than in the Ministry of Food method used in these experiments. It is probable, therefore, that either type of cooking in the home will often cause greater loss of vitamin C than in our experiments. This is more likely to occur when the saucepan is used: overcooking of vegetables in the pressure cooker results so easily in disintegration that housewives soon learn to avoid this, whereas slight overcooking with a large volume of water in the saucepan results in no obvious loss in appearance or palatability. We may reasonably conclude that, in general, the retention of vitamin C in vegetables in pressure cooking is likely to be no worse, and will probably be better, than in the saucepan when either process is used in the home. There is certainly no reason, from our experiments, to suppose that pressure cooking should be discouraged because of its effect upon the nutritive value of vegetables.

So far as other foods and vitamins are concerned, very little has been published. A few experiments of our own on the vitamin B_1 content of pulses suggest that the pressure cooker is better than the saucepan.

Summary

A comparison has been made of the effect upon the retention of vitamin C in 10 different vegetables when cooked in a modern pressure saucepan and in an ordinary saucepan according to the recommended methods. On the average the retention was higher in vegetables cooked in the pressure cooker.

We should like to thank Professor John Yudkin for his counsel, and the Ministry of Food for cooking some of the samples.

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SPERMATOLYSIS: A CAUSE OF MALE STERILITY

BY

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Much attention has been directed of late towards the problem of sterility and infertility. In consequence I have been stimulated to present the results of some studies on male sterility which suggest a causative factor not hitherto described.

During the investigation of 75 males complaining of sterility at the urological clinic of Dr. A. E. Gussel, in the Guraba Hospital, Istanbul, I came across two specific abnormal spermatozoon types which were thought to be the cause of the sterility. The purpose of this communication is to call attention to the abnormalities. Short summaries of five of the case histories are given.

Case Reports

Case 1.—H. T., married five years; no children; wife pronounced normal by the gynaecologist. No history of venereal disease. No physical abnormality present. Examination of sperm 30 minutes after collection showed no microscopical or macroscopic abnormality. After two hours the specimen was separating into two layers—a clear supernatant and a sedimented layer. Microscopically the clear layer was acellular, but the sediment contained aggregations of dying spermatozoa. (I intend to make some observations on the death of spermatozoa in a further paper.) As time passed fewer and fewer sperms were seen, until at the end of six hours none were visible—the phenomenon of spermatolysis. Furthermore, the fluid obtained from this patient by prostatic massage caused spermatolysis to occur in the semen of a normal control when added to the latter.

Case 2.—N. O., married four times in the previous twenty years. One of his former wives had remarried and had had a family. No previous venereal disease, and no abnormal physical findings. The seminal fluid appeared to be more viscous than normal, but microscopically it seemed normal in every way up to two hours, when agglutination was beginning. After six hours spermatolysis was complete as in Case 1, and again prostatic fluid from this case caused spermatolysis when added to a normal control seminal fluid.

Case 3.—H. D., aged 34; married eight years; no history of venereal disease; wife normal. A spermiogram showed oligospermia and hypokinesia. In two hours spermatolysis was complete.

In these three cases aspiration of the epididymis was performed. Unfortunately no sperms were found in any of the specimens, but in Case 3 minute comma-shaped bodies about 2 by 4 μ were seen. They showed some brownian movement. I got the impression that they were microsperms. Within two hours they had undergone lysis. In normal cases spermatozoa aspirated from the epididymis live two to three days.

Case 4.—F. O., aged 32; married three years; history of gonorrhoea twice, with clinical cure; no evidence of epididymitis or prostatitis; wife normal. Semen appeared normal